



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 8235/2
Permit type:	Purpose permit
Applicant name:	Northern Star (Hampton Gold Mining Areas) Ltd
Application received:	26 May 2025
Application area:	200 hectares of native vegetation
Purpose of clearing:	Mineral exploration
Method of clearing:	Mechanical
Property:	Lot 105 on Deposited Plan 40396
Location (LGA area/s):	Coolgardie
Localities (suburb/s):	Karramindie

1.2. Description of clearing activities

This amendment is to extend the duration of the permit to allow clearing until 29 June 2029 for mineral exploration. CPS 8235/1 allowed for the clearing of up to 200 hectares for mineral exploration, however, did not allow for clearing after 26 September 2024, with the permit due to expire on 26 September 2029 to allow for revegetation and rehabilitation activities. The clearing permit footprint sought under CPS 8235/2 is unchanged from CPS 8235/1 (see Figure 1, Section 1.5). The applicant advised that 40.27 hectares of clearing has been undertaken under CPS 8235/1, since the commencement of the permit in 2019.

1.3. Decision on application

Decision:	Granted
Decision date:	2 October 2025
Decision area:	200 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit amendment application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

A review of current environmental databases and updated biological survey information identified that the assessment of impacts to biological values (flora and fauna) has changed since the previous assessment for CPS 8235/1. The application area under amendment contains the following environmental values further to those considered under CPS 8235/1:

- Habitat for Priority flora species, including individuals of *Calandrinia lefroyensis*, *Lepidium genistoides* and *Lepidosperma* sp. Kambalda (A.A. Mitchell 5156),
- 23 active malleefowl (*Leipoa ocellata*) mounds, and

- Potential habitat for conservation significant fauna species including shield-backed trapdoor spiders (*Idiosoma* sp.), desert hairstreak butterfly (*Jalmenus aridus*), central long-eared bat (*Nyctophilus major tor*), and arid bronze azure butterfly (*Ogyris subterrestris petrina*).

The remaining environmental values within the permit area remain largely unchanged since the previous assessment and clearing under the proposed amendment will continue to result in:

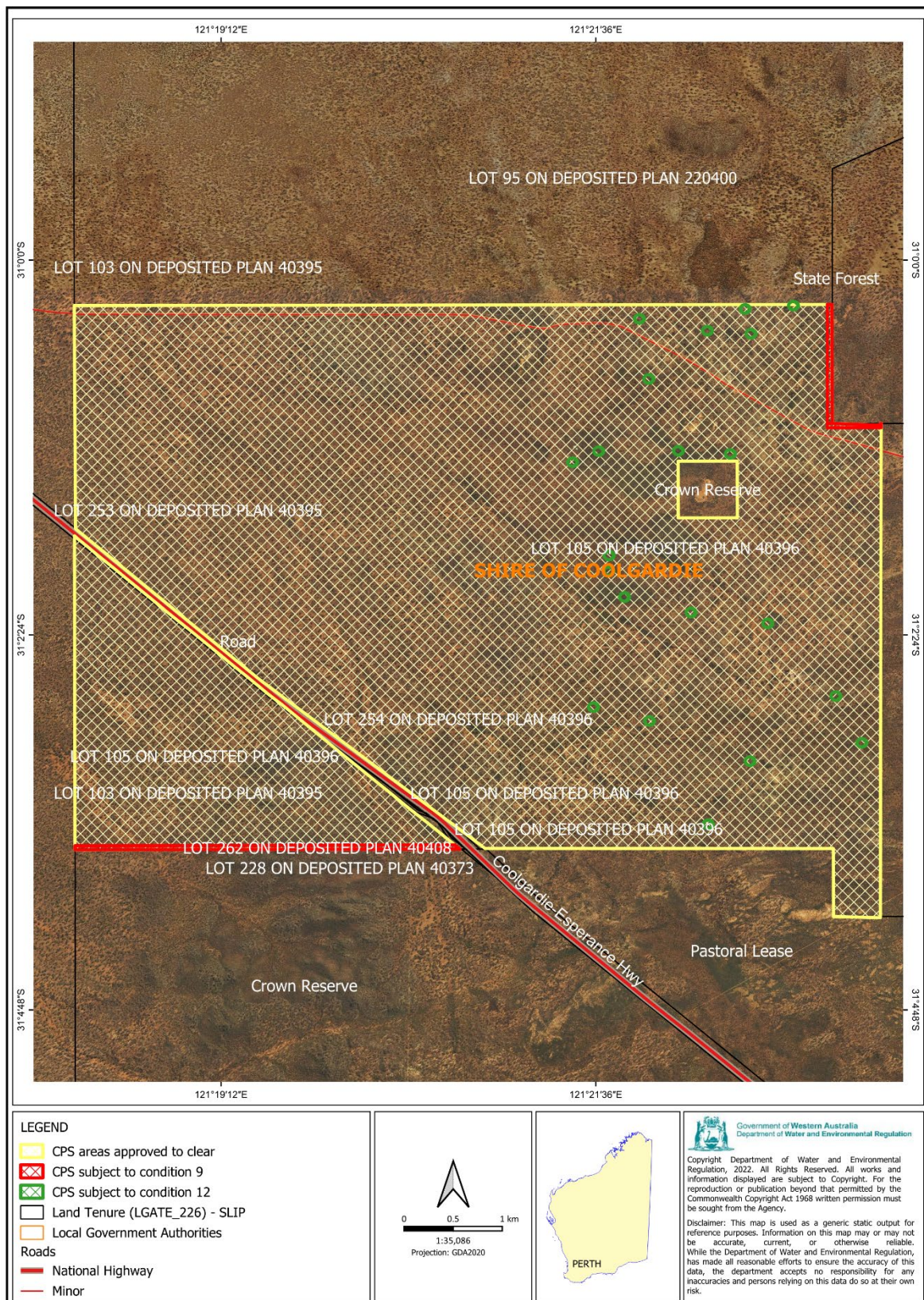
- the loss of suitable habitat for Priority flora species,
- the loss of suitable habitat for conservation significant fauna species,
- the clearing of vegetation in proximity to a conservation area, which could indirectly impact on its environmental values,
- the clearing of riparian vegetation growing in association with watercourses and drainage lines,
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values,
- potential land degradation in the form of erosion, and
- short-term water quality impacts, such as sedimentation.

In considering the above, the Delegated Officer considered that the proposed amendment is not likely to lead to an unacceptable risk to environmental values, subject to conditions to:

- ensure the purpose of clearing is enacted within three months of the authorised clearing being undertaken to minimise erosion risk,
- avoid, minimise, and reduce the impacts and extent of clearing,
- take hygiene steps to minimise the risk of the introduction and spread of weeds,
- avoid clearing riparian vegetation where possible or, where a watercourse is to be impacted by clearing, maintain the existing surface flow by use of culverts,
- avoid clearing within 50 metres of Karamindie Forest and Yallari Timber Reserve,
- demarcate and avoid the clearing of all identified possible and confirmed populations of *Calandrinia lefroyensis*, *Lepidium genistoides* and *Lepidosperma* sp. Kambalda (A.A. Mitchell 5156), along with a 20-metre buffer surrounding each population,
- engage a fauna specialist to undertake surveys to identify malleefowl mounds and shield-backed trapdoor spider burrows to be flagged and avoided from clearing, along with their relevant buffers,
- ensure no clearing occurs within 50 metres of known locations of active malleefowl mounds,
- ensure all habitat trees within the application area are retained,
- undertake slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity, and
- revegetate cleared areas no longer required for the purpose for which they were cleared with stockpiled vegetative material and topsoil from cleared vegetation and undertake remedial actions if vegetation is not restored to pre-clearing composition, structure and density.

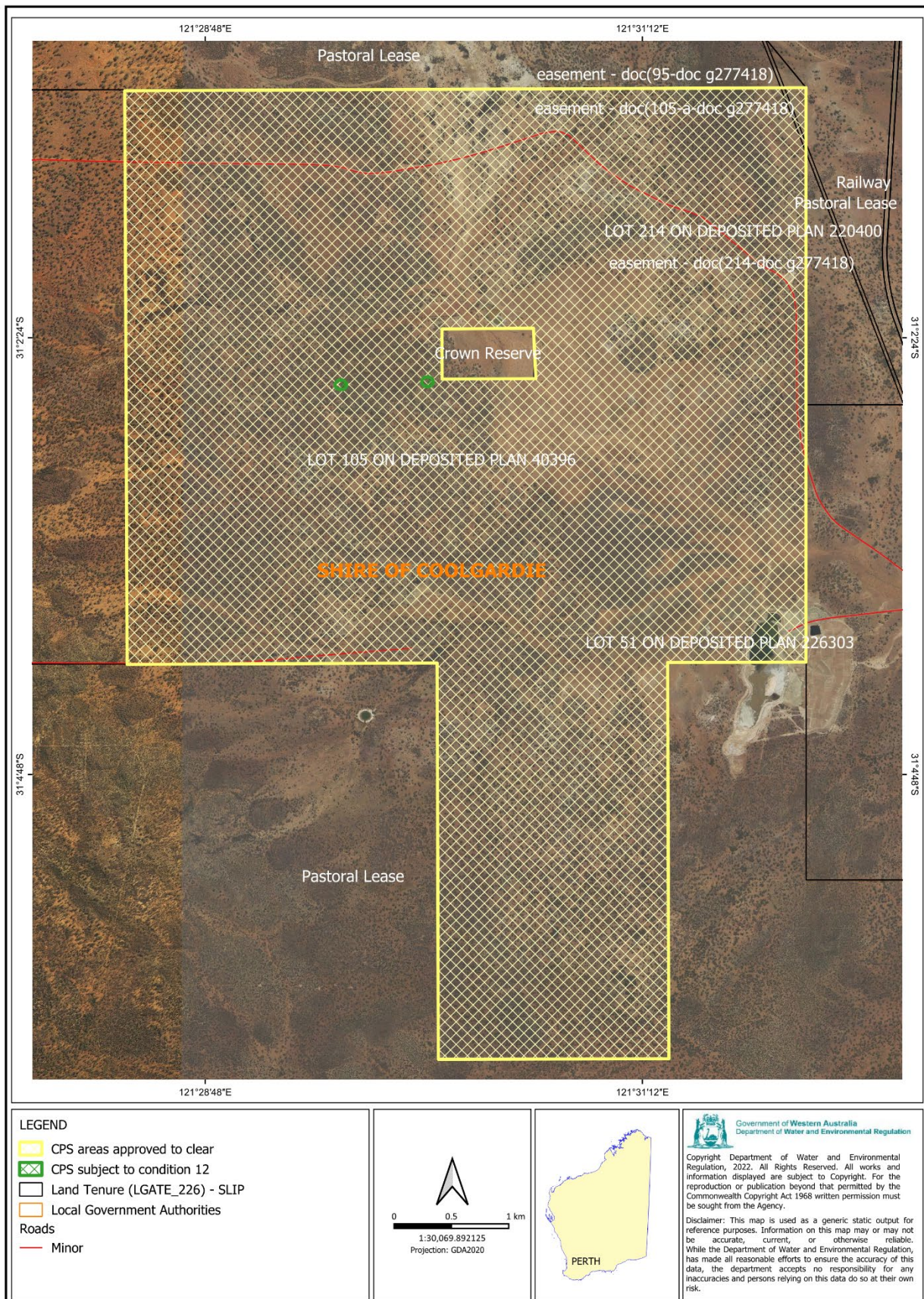
In addition to extending the permit duration, the Delegated Officer determined that the inclusion of several conditions above as well as amendments to existing permit conditions were also required to minimise and manage risks to environmental values and bring the permit in line with current DWER policies and procedures.

1.5. Site maps



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Figure 1. Map of the application area. The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit. The areas cross-hatched red or green indicate areas within which specific conditions apply.



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Figure 2. Map of the application area. The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit. The areas cross-hatched green indicate areas within which specific conditions apply.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the polluter pays principle
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

As a condition of CPS 8235/1, the applicant is required to submit records to DWER detailing actions taken to avoid, minimise and reduce the impacts and extent of clearing. In the most recent records provided to DWER (Northern Star, 2024), the applicant detailed the following avoidance and mitigation actions applied to their clearing activities:

- Northern Star minimises the risk of the introduction and spread of weeds by ensuring that vehicles and machinery are washed down and cleaned when entering and leaving sites; ensuring that no weed-affected soil, fill or other material is brought into the area; and restricting the movement of machines and other vehicles to the limits of the areas to be cleared. There were no reports of weeds identified during clearing activities (for the reporting period 1 January 2023 to 31 December 2023).
- Exploration staff are trained in malleefowl identification and conduct field inspections, as per internal procedures, for all mineral exploration programmes prior to clearing. Observed malleefowl activity and mounds are reported to the Environmental Department and exclusion zones are implemented. Identified mounds are recorded in a GIS-based register which is included in Northern Star's internal pre-clearing approvals process.
- This process also delineates watercourses, drainage lines and wetlands and sets exclusion zones to protect associated riparian vegetation from clearing activities.
- Northern Star employs the same environmental management practices conducting exploration on its Freehold Land under clearing permits, as on its Tenements, governed by the PoW system (Mining Act 1978). These practices include, but are not limited to:
 - Containing all groundwater intercepted during drilling and/or drilling water appropriately;
 - Ramping all excavations (sumps, costeans etc) to allow fauna egress;
 - Avoiding significant vegetation (e.g. large trees and dense patches of vegetation);
 - Blade up clearing;
 - Stockpiling of topsoil and vegetation (as necessary) for use in rehabilitation; and
 - Controlling the risk of hydrocarbon spillage (e.g. the use of liners and drip trays under machinery when required).
- On completion of an exploration programme the site is completely rehabilitated as per DMPE requirements for rehabilitating low impact exploration disturbance (REC-EC-109D). Rehabilitation practices include:
 - Below ground plugging of drill holes in a manner that prevents long-term slumping or subsidence; o
 - Backfilling all excavations (sumps);
 - Spreading stockpiled topsoil and vegetation during the scarification of the disturbed areas (access tracks and drill pads); and
 - Removal of sample bags, rubbish and any temporary infrastructure

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

A review of current environmental information (Appendix A) reveals that the assessment against the clearing principles has changed significantly from the previous assessments of the permit detailed in Clearing Permit Decision Reports CPS 8235/1.

The assessment against the clearing principles (see Appendix B) identified that the impacts of the proposed clearing present a risk to biological values (flora and fauna) and conservation areas. The consideration of these impacts, changes from the previous assessments of the permit, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (flora) - Clearing Principle (a)

Assessment

The previous assessment of this permit did not identify any conservation significant flora within the proposed clearing area. It did note that the proposed clearing area contains suitable habitat for two species of Priority flora, *Acacia websteri* and *Thryptomene* sp. Londonderry (R.H Kuchel 1763), both listed as Priority 1 by the Department of Biodiversity, Conservation and Attractions (DBCA). *T.* sp. Londonderry has since been renamed to *T. planiflora* and both species are still listed as Priority 1.

A review of current environmental information (Appendix A) and recent flora surveys undertaken over the application area (Spectrum Ecology, 2024; Botanica, 2025) recorded no threatened species within the application area, however three priority flora species were identified within the application area that were not identified during previous assessments of the permit:

- *Calandrinia lefroyensis* (P1)
- *Lepidium genistoides* (P3)
- *Lepidosperma* sp. Kambalda (A.A. Mitchell 5156) (P2)

The surveys noted that some records of *Lepidosperma* sp. Kambalda could not be identified to species level (Spectrum Ecology, 2024). In the absence of taxonomic confirmation, DWER has adopted a precautionary approach and assumed that these records are the priority species. Accordingly, four records of *L.* sp. Kambalda were recorded in two locations across the application area, within vegetation types VT20 and VT24. A total of 108 individuals of *C. lefroyensis* were identified across 33 locations within vegetation types VT04, VT05 and VT07 within the application area. A total of seven individuals of *L. genistoides* were recorded in the application area across four locations within vegetation types VT07 and VT19.

Noting the extent of individuals recorded within the application area, clearing of these individuals could result in locally and/or regionally significant impacts to these species, particularly *L. genistoides* which has not previously been recorded within the local area and represents an almost 200-kilometre range extension for the species. As such, the permit will include a condition to retain all possible and confirmed populations of these species within the application area, along with a 20-metre buffer.

It is noted that the flora and vegetation surveys also identified three populations of *Santalum spicatum* (Sandalwood) within the application area (Spectrum Ecology, 2024). Sandalwood is a controlled species under the BC Act and *Biodiversity Regulations 2018* and is the subject of the *Santalum spicatum* (Sandalwood) Biodiversity Management Programme. The applicant has been advised that they may have responsibilities under the BC Act if Sandalwood is proposed to be cleared, such as the requirement to obtain a flora taking (sandalwood) licence.

Conclusion

Based on the above assessment, impacts to conservation significant flora species are considered to have changed since the previous assessments of the permit detailed in the Decision Reports prepared for Clearing Permit CPS 8235/1. However, the proposed clearing is unlikely to result in impacts to conservation significant flora species, noting all possible and confirmed populations of these species within the application area will be retained, along with a 20-metre buffer.

While a priority flora management condition was included on CPS 8235/1, it has been amended to reflect current practice.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Flora management, requiring the permit holder to demarcate and avoid the clearing of all identified possible and confirmed populations of *Calandrinia lefroyensis*, *Lepidium genistoides* and *Lepidosperma* sp. Kambalda (A.A. Mitchell 5156), along with a 20-metre buffer surrounding each population.
- Weed management conditions

3.2.2. Biological values (fauna) - Clearing Principle (b)

Assessment

A review of current environmental information (Appendix A) and recent fauna surveys undertaken over the application area (SLR, 2024; Botanica, 2025) indicates that it provides habitat for the following five conservation significant fauna species:

- arid bronze azure butterfly (*Ogyris subterrestris petrina*) (listed as Critically Endangered under the BC Act and EPBC Act)
- central long-eared bat (*Nyctophilus major tor*) (listed as Priority 3 by DBCA)
- desert hairstreak butterfly (*Jalmenus aridus*) (listed as Priority 1 by DBCA)
- malleefowl (*Leipoa ocellata*) (listed as Vulnerable under the BC Act and EPBC Act)
- shield-backed trapdoor spider (*Idiosoma* sp.) (listed as Priority by DBCA)

The previous assessment of the permit also acknowledged that the application area provides potentially significant habitat for malleefowl and required that no clearing of critical habitat for threatened or priority fauna occurred as a condition of CPS 8235/1. Surveys from the previous assessment recorded a malleefowl individual and three malleefowl mounds (one of which had been recently active). Targeted searches in July and August 2023 (SLR, 2024) identified 23 mounds within the application areas. To align with current standards and better protect foraging resources within proximity of mounds, the amended permit will include a revised fauna management condition to require retention of a 50-metre vegetated buffer around any active mounds identified in pre-clearance surveys and the 23 confirmed mounds within the application area. Existing permit conditions for revegetation of temporarily cleared areas will also ensure that foraging and dispersal habitat for malleefowl are maintained throughout the application area post-exploration and production to minimise long-term loss of habitat. Therefore, impacts to malleefowl under the proposed amendment are unlikely to be significant and are largely unchanged from the previous assessment of the permit.

The remaining four species of concern were not considered in previous assessments of the permit and have been assessed as follows:

Shield-backed trapdoor spider

Since the original clearing permit has been granted shield-backed trapdoor spiders (*Idiosoma* sp.) were recorded in the local area, the nearest being 1.72 kilometres from the proposed clearing. These records were found in the vegetation between the application areas, and it is considered likely that they are present within the proposed clearing area.

The ecology and current distribution of shield-backed trapdoor spiders in Western Australia is not well understood and a priority action for listed *Idiosoma* species is to minimise adverse impacts from land uses (especially mining) at known sites (DBCA, 2023b). Given shield-backed trapdoor spiders typically have poor dispersal capabilities, are confined to disjunct habitats, and have low fecundity, the clearing of burrows and surrounding vegetation will result in the death of individuals and potentially significant impacts to the species.

The Delegated Officer determined that an additional condition requiring pre-clearance surveys, avoidance of identified burrows, and appropriate vegetated buffers should be added to the amended permit to mitigate impacts to *Idiosoma* species.

Desert hairstreak butterfly

The application area provides suitable habitat for the desert hairstreak butterfly noting existing records in the local area and the presence of preferred host plants (*Senna artemisioides* subsp. *filifolia*) within the VT14 vegetation type (Spectrum Ecology, 2024). Fauna surveys did not record the desert hairstreak butterfly within the application area (SLR 2024; Botanica, 2025). However, this species is cryptic and difficult to survey, given it has a relatively short flight period (two to three weeks at a given site) with emergence linked to rainfall patterns, plant phenology and other ecological conditions (SLR, 2024). Therefore, the species may still occur within the application area. Noting the extent

of suitable habitat containing preferred host plants within the application area and greater surveyed area, it is not likely that the clearing will result in significant impacts to the species.

Central long-eared bat

Based on findings from the fauna surveys (SLR, 2024; Botanica, 2025), there is potential for the Priority Three Central Long-eared Bat to occur within the application area. Desktop data indicates that this species was previously recorded only once in the vicinity, in 1981, approximately 14.49 kilometres from the application area. The Central Long-eared Bat typically roosts in hollows of old trees and beneath loose bark, and its diet consists primarily of moths and beetles. Large to very tall eucalypt trees are the habitat of this species (Australian Museum, 2024).

Noting the proposed clearing is within a much larger footprint, the applicant should be able to retain any large habitat trees within the application area. The previous assessments of the application area did not consider this species in its assessment. The implementation of a permit condition requiring the retention of habitat trees will mitigate the risk of significant impact to the central long-eared bat and its habitat.

Arid bronze azure butterfly (ABAB)

Fauna surveys have not recorded ABAB or ABAB-associated ant (*Camponotus terebrans*) colonies within the application area during targeted searches (SLR, 2024; Botanica, 2025). However, considering recently discovered nearby populations near Kalgoorlie (DBCA, 2023b) and the presence of suitable habitat across the proposed clearing area, ABAB is considered as having the potential to occur within the application area. ABAB are typically found in association with ants in nests established at the base of mature, smooth-barked eucalypts (DoE, 2015). Permit conditions requiring the retention of habitat trees will likely mitigate the risk of significant impacts to ABAB, if present within the application area.

Conclusion

Based on the above assessment, the application area contains significant habitat for malleefowl and shield-backed trapdoor spiders, as well as suitable habitat for the desert hairstreak butterfly, central long-eared bat, and ABAB, which were not considered in previous assessments of the permit. Therefore, impacts to conservation significant fauna species are considered to have changed since the previous assessments of the permit detailed in the Decision Reports prepared for Clearing Permit CPS 8235/1.

For the reasons set out above, it is considered that the impacts of the proposed clearing can be managed through the amended permit conditions such that it will not result in significant residual impacts to these species.

The applicant may have notification responsibilities under the EPBC Act for impacts to malleefowl and arid bronze azure butterfly and their habitats, as set out in the EPBC Act. The applicant has been advised to contact the federal Department of Climate Change, Energy, the Environment and Water (DCCEW) to discuss EPBC Act referral requirements.

Conditions

To address the impacts, the following management measures will be required as conditions on the clearing permit:

- Fauna management – pre-clearance survey, requiring the permit holder to engage a fauna specialist to undertake surveys to identify malleefowl mounds and shield-backed trapdoor spider burrows to be flagged and avoided from clearing, along with relevant buffers,
- Fauna management – malleefowl, requiring the permit holder to ensure no clearing occurs within 50 metres of known locations of active malleefowl mounds,
- Fauna management – shield-backed trapdoor spider, requiring the permit holder to ensure no clearing occurs within 50 metres of known locations of shield-backed trapdoor spider burrows and within 200 metres of known locations of matriarchal clusters,
- Fauna management – habitat trees, requiring all habitat trees within the application area to be retained,
- Directional clearing, requiring the permit holder to undertake slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity, and
- Revegetation and rehabilitation – retain vegetative material and topsoil, requiring the permit holder to revegetate cleared areas no longer required for the purpose for which they were cleared with stockpiled vegetative material and topsoil from cleared vegetation and undertake remedial actions if vegetation is not restored to pre-clearing composition, structure and density

3.2.3. **Conservation areas - Clearing Principle (h)**

Assessment

As identified in the previous assessment of the permit, the western application area is immediately adjacent to the Karamindie Forest in its north-eastern corner and Yallari Timber Reserve to the southwest. The clearing of native vegetation in this area may indirectly impact its environmental values by facilitating the spread of weeds and other pathogens. To ensure greater protection against indirect impacts to this conservation area, the amended permit will include an additional condition requiring that no clearing occur within 50 metres of these conservation areas. Existing permit conditions for weed management and revegetation and rehabilitation of temporarily cleared areas will further mitigate any indirect impacts. As such, it is considered that these impacts can be managed to be environmentally acceptable through existing conditions on the amended permit.

Conclusion

Based on the above assessment, the proposed clearing may result in the spread of weeds and pathogens to the adjacent Karamindie Forest and Yallari Timber Reserve. Impacts to conservation areas are considered unchanged from the previous versions of the permit and can be found in the Decision Report prepared for Clearing Permits CPS 8235/1.

Conditions

To address the above, the following management measures will be required as conditions on the clearing permit:

- Weed management, requiring the permit holder to implement hygiene measures to minimise the risk of introduction and spread of weeds,
- Conservation areas management, requiring no clearing of native vegetation to occur within 50 metres of Karamindie Forest and Yallari Timber Reserve, and
- Revegetation and rehabilitation – retain vegetative material and topsoil, requiring the permit holder to revegetate cleared areas no longer required for the purpose for which they were cleared with stockpiled vegetative material and topsoil from cleared vegetation and undertake remedial actions if vegetation is not restored to pre-clearing composition, structure, and density.

3.2.4. **Land and water resources - Clearing Principles (f), (g) and (i)**

Assessment

As identified in CPS 8235/1, the application area intercepts numerous minor perennial watercourses, which eventually drain into lakes to the north of the local area. Noting that land systems mapped within the application area are susceptible to erosion when cleared, particularly within drainage areas, clearing may result in erosion, leading to sedimentation in these watercourses. However, given the non-perennial nature of the watercourses and their distance to the receiving lakes, it is considered unlikely that the clearing will significantly impact upon water quality within these lakes. For any watercourses that are subject to clearing, impacts to water quality are expected to be short-term and will diminish as temporarily cleared areas are revegetated in accordance with permit conditions. Potential impacts to watercourses and land degradation resulting from the proposed clearing will also to be minimised through erosion management conditions (newly imposed on this amended permit) and watercourse management conditions on the permit (existing in CPS 8235/1).

Although groundwater within the application area is saline, groundwater in the area is below 70 to 100 metres depth (DMP, 2010). Noting this, and given the average annual evaporation rate is over ten times the average annual rainfall, there is a low likelihood of raised saline water tables occurring as a result of the proposed clearing.

Conclusion

Based on the above assessment, the proposed clearing may result in the loss of riparian vegetation, an increased risk of land degradation and short-term water quality impacts. This does not differ to the assessment for CPS 8235/1, however clearing principle levels for principles (f), (g) and (i) have been revised from CPS 8235/1 (see Appendix B). It is considered that these impacts can be managed to be environmentally acceptable through existing conditions on the amended permit.

Conditions

To address the above, the following management measures will be required as conditions on the clearing permit:

- Permit holder to ensure the purpose of clearing is enacted within three months of the authorised clearing being undertaken to minimise erosion risk,
- Vegetation management, requiring the permit holder to avoid clearing riparian vegetation where possible or, where a watercourse is to be impacted by clearing, maintain the existing surface flow by use of culverts, and

- Revegetation and rehabilitation – retain vegetative material and topsoil, requiring the permit holder to revegetate cleared areas no longer required for the purpose for which they were cleared with stockpiled vegetative material and topsoil from cleared vegetation and undertake remedial actions if vegetation is not restored to pre-clearing composition, structure, and density.

3.3. Relevant planning instruments and other matters

Other relevant authorisations required for the proposed land use include:

- Licence issued under Part V Division 3 of the EP Act.
- Licence to abstract water under the *Rights in Water and Irrigation Act 1914*.

The applicant holds a current license (L5107/1988/13) under Part V Division 3 of the EP Act for the South Kalgoorlie Operations (SKO) Jubilee Gold Mine, which allows for processing or beneficiation of metallic or non-metallic ore (Category 5), mine dewatering (Category 6), and Class II or II putrescible landfill site (Category 64). L5107/1988/13 expires on 24 October 2036 and will be valid for the proposed extended permit duration.

The applicant also holds a licence to take water (GWL106836(9)) under the RIWI Act for the purposes of dewatering for mine purposes, dust suppression for mining operations, exploratory drilling operations, and mineral ore processing and other mining purposes (DWER, 2023). It is noted that this licence is due to expire on 25 November 2025, with an amendment application currently ongoing.

Local Government Approvals

The Shire of Coolgardie (2025) advised DWER that Council recently resolved to approve the application for Mining Exploration Drilling Activities on Lot 105 DP 40396 Coolgardie-Esperance Highway, Karamindie and accompanying plans and supporting material, in accordance with the provisions of the Shire of Coolgardie Local Planning Scheme No.5, subject to the following conditions:

- This approval shall expire and be of no further effect if the land use has not substantially commenced within a period of four (4) years or within any extension of time as granted by the Shire of Coolgardie.
- The land use and development shall be undertaken in accordance with the approved plans and documentation.
- All surface holes drilled for the purpose of exploration are to be capped, filled or otherwise made safe immediately after completion.

Noting that the project is entirely located within granted mining leases, and noting that the amendment relates to an extent of land for which the proponent has already received approval to clear (CPS 8235/1), the Shire (2025) advised they have no objection to the proposal subject to the following:

- The proponent should ensure that all activities avoid known Aboriginal heritage sites and engage with Traditional Owners as required under the *Aboriginal Heritage Act 1972*.
- This approval does not authorise any closure of dedicated or vested roads. Closure is subject to separate approval from the Shire of Coolgardie.

It is acknowledged that Lot 105 on Deposited Plan 40396 and Lot 94 on Deposited Plan 220400 are freehold properties with special land category area, EEL, Greater Hamptons, Northern Hamptons Area 53. Freehold land grants the landowner the right to retain the mineral rights, and therefore the provisions under the Mining Act do not apply. Exempt locations such as EEL 53 are governed under the *Mining on Private Property Act 1898* (Mining Act, Section 27(2)).

Contaminated sites

A small portion of the eastern application area is mapped as a contaminated site classified as 'Possibly contaminated - investigation required' due to a Samphire In-pit Tailings Storage Facility (TSF). DWER's Contaminated Sites Branch did not have any objections to the proposal, however; since part of the application includes the area surrounding the TSF, an appropriate management plan should be prepared to address the risks associated with potential exposure to contaminated soil during earthworks (DWER, 2025).

Aboriginal Heritage

Several Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is located approximately 35 kilometres (km) south of Kalgoorlie, in the Coolgardie Bioregion and the Eastern Goldfields Subregion (COO03) of Western Australia. Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 98 per cent of the original native vegetation cover.
Ecological linkage	No formal linkages are mapped within the clearing footprint. Noting the extent of native vegetation surrounding the application area and in the local area, the application area is unlikely to be significantly contributing to ecological linkage values.
Conservation areas	The western application area is immediately adjacent to Karamindie Forest in the north-east corner and Yallari Timber Reserve in the south-west corner.
Vegetation description	Vegetation surveys (Spectrum Ecology, 2024 and Botanica, 2025) indicate the vegetation within the proposed clearing footprint consists of: - Botanica (2025): - CLP-AFW1 - Low open woodland of <i>Acacia acuminata</i> over mid open shrubland of <i>Scaevola spinescens</i> and low open shrubland of <i>Ptilotus obovatus</i> on clay-loam plain. (14 ha) - CLP-EW1 - Low open woodland of <i>Eucalyptus salmonophloia</i> over mid open shrubland of <i>Eremophila scoparia</i>/ <i>Atriplex nummularia</i> and low open shrubland of <i>Atriplex vesicaria</i> on clay-loam plain. (560 ha) - CLP-EW2 - Low open woodland of <i>Eucalyptus clelandiorum</i> over mid open shrubland of <i>Senna artemisioides</i> subsp. <i>filifolia</i> over sparse samphire shrubland of <i>Tecticornia disarticulata</i> on clay-loam plain. (1141 ha) - CLP-EW3 - Low open woodland of <i>Eucalyptus ravidia</i> over mid open shrubland of <i>Eremophila ionantha</i> and low sparse shrubland of <i>Ptilotus obovatus</i> on clay-loam plain. (36 ha) - CLP-EW4 - Low open woodland of <i>Eucalyptus clelandiorum</i>/ <i>E. oleosa</i> over mid sparse shrubland of <i>Melaleuca sheathiana</i> and low shrubland of <i>Cratystylis conocephala</i> on clay-loam plain. (204 ha) - CLP-MW1 - Open mallee forest of <i>Eucalyptus griffithsii</i> over mid open shrubland of <i>Eremophila ionantha</i>/ <i>Santalum acuminatum</i> and low shrubland of <i>Triodia irritans</i>, on clay loam plain. (19 ha) - CLP-MW2 - Low open mallee woodland of <i>Eucalyptus griffithsii</i> over mid open shrubland of <i>Senna artemisioides</i> subsp. <i>filifolia</i> and sparse shrubland of <i>Atriplex vesicaria</i> on a clay loam plain. (75 ha) - DD-EW1 - Low open woodland of <i>Eucalyptus salmonophloia</i>/ <i>Eucalyptus griffithsii</i> over mid open shrubland of <i>Atriplex nummularia</i> and low open shrubland of <i>Tecticornia disarticulata</i>/ <i>Atriplex vesicaria</i> in drainage depression. (821ha) - RH-AFW1 - Low open woodland of <i>Acacia collegialis</i> over mid open shrubland of <i>Eremophila clarkei</i> and low open shrubland of <i>Dodonaea microzyga</i> on rocky hillslope. (65 ha) - RH-EW1 - Low open woodland of <i>Eucalyptus clelandiorum</i> over mid open shrubland of <i>Melaleuca sheathiana</i> and understory of <i>Scaevola spinescens</i> on rocky hillslope. (308 ha) - RH-EW2 - Low open woodland of <i>Eucalyptus torquata</i> over mid sparse shrubland of <i>Atriplex nummularia</i> and low open shrubland of <i>Westringia rigida</i> on rocky hillslope. (109 ha) - RH-MW1 - Low open mallee woodland of <i>Eucalyptus griffithsii</i> over low open shrubland of <i>Acacia acuminata</i> and sparse shrubland of <i>Scaevola spinescens</i>/ <i>Westringia rigida</i> on rocky hillslope. (33 ha) - SP-MAFW1 - <i>Eucalyptus loxophleba</i> subsp. <i>lissophloia</i> and <i>Melaleuca hamata</i> open woodland over <i>Ericomyrtus serpyllifolia</i>, <i>Glischrocaryon aureum</i> shrubland over <i>Triodia irritans</i>, <i>Mirbelia microphylla</i> and <i>Lomandra effusa</i> low open shrubland/sedgeland/hummock grassland. (9 ha)

Characteristic	Details
	• Spectrum Ecology (2024): ○ VT04: <i>Cratystylis subspinescens</i> mid sparse shrubland, over <i>Atriplex vesicaria</i>, <i>Maireana glomerifolia</i>, <i>Tecticornia disarticulata</i> low sparse shrubland. (75 ha) ○ VT05: <i>Eucalyptus salmonophloia</i>, <i>Eucalyptus salubris</i> mid open woodland, over <i>Cratystylis subspinescens</i> mid sparse shrubland, over <i>Atriplex vesicaria</i>, <i>Maireana glomerifolia</i>, <i>Tecticornia disarticulata</i> low sparse shrubland. (1674 ha) ○ VT06: <i>Eremophila interstans</i> subsp. <i>virgata</i> mid open shrubland, over <i>Dodonaea microzyga</i> var. <i>acrolobata</i>, <i>Lawrencia squamata</i>, <i>Rhagodia drummondii</i> low sparse shrubland. (66 ha) ○ VT07: +/-<i>Acacia inceana</i> subsp. <i>conformis</i>, <i>Acacia rigens</i> tall sparse shrubland, over <i>Cratystylis microphylla</i>, <i>Eremophila scoparia</i> mid sparse shrubland, over <i>Rhagodia drummondii</i>, <i>Scaevola spinescens</i>, <i>Tecticornia disarticulata</i> low open shrubland. (68 ha) ○ VT13: <i>Eucalyptus lesouefii</i>, <i>Eucalyptus torquata</i>, +/-<i>Eucalyptus stricklandii</i> low open woodland with +/-<i>Acacia burkittii</i> tall sparse shrubland, over <i>Alyxia buxifolia</i>, <i>Dodonaea lobulata</i>, <i>Eremophila oppositifolia</i> subsp. <i>angustifolia</i> mid sparse shrubland, over <i>Scaevola spinescens</i>, <i>Acacia erinacea</i>, <i>Westringia rigida</i> low sparse shrubland. (316 ha) ○ VT14: <i>Eucalyptus griffithsii</i>, <i>Eucalyptus torquata</i>, +/-<i>Eucalyptus oleosa</i> subsp. <i>oleosa</i> mid mallee woodland with <i>Eremophila interstans</i> subsp. <i>interstans</i>, +/-<i>Acacia burkittii</i>, <i>Casuarina pauper</i> tall sparse shrubland, over <i>Senna artemisioides</i> subsp. <i>filifolia</i>, <i>Dodonaea lobulata</i>, <i>Eremophila oldfieldii</i> subsp. <i>angustifolia</i> mid sparse shrubland, over <i>Scaevola spinescens</i>, <i>Eremophila glabra</i> subsp. <i>glabra</i>, <i>Olearia muelleri</i> low sparse shrubland. (418 ha) ○ VT15: <i>Eucalyptus salmonophloia</i>, <i>Eucalyptus lesouefii</i> mid open woodland with <i>Eremophila dempsteri</i>, <i>Exocarpos aphyllus</i> tall sparse shrubland, over <i>Senna artemisioides</i> subsp. <i>filifolia</i>, <i>Atriplex nummularia</i> subsp. <i>spathulata</i>, <i>Eremophila scoparia</i> mid sparse shrubland, over <i>Atriplex vesicaria</i>, <i>Cratystylis conocephala</i>, <i>Rhagodia drummondii</i> low sparse shrubland. (975 ha) ○ VT16: +/-<i>Eucalyptus griffithsii</i>, <i>Eucalyptus salmonophloia</i> mid open woodland with <i>Eremophila interstans</i> subsp. <i>virgata</i>, <i>Exocarpos aphyllus</i> tall sparse shrubland, over <i>Senna artemisioides</i> subsp. <i>filifolia</i>, <i>Eremophila ionantha</i>, <i>Acacia leptopetala</i> mid sparse shrubland, over <i>Lycium australe</i>, <i>Atriplex vesicaria</i>, <i>Rhagodia drummondii</i> low sparse shrubland. (24 ha) ○ VT18: <i>Eucalyptus lesouefii</i> mid woodland with <i>Melaleuca sheathiana</i> tall open shrubland, over <i>Eremophila scoparia</i>, <i>Exocarpos aphyllus</i>, <i>Senna artemisioides</i> subsp. <i>filifolia</i> mid sparse shrubland, over <i>Olearia muelleri</i>, <i>Acacia erinacea</i> low sparse shrubland. (7 ha) ○ VT19: <i>Eucalyptus salubris</i>, <i>Eucalyptus clelandiorum</i>, +/-<i>Eucalyptus salmonophloia</i> low woodland, over <i>Senna artemisioides</i> subsp. <i>filifolia</i>, <i>Eremophila scoparia</i>, <i>Exocarpos aphyllus</i> mid sparse shrubland, over <i>Eremophila caperata</i>, <i>Eremophila parvifolia</i> subsp. <i>auricampi</i>, <i>Olearia muelleri</i> low sparse shrubland. (183 ha) ○ VT20: <i>Eucalyptus cylindrocarpa</i>, <i>Eucalyptus yilgarnensis</i> mid open mallee woodland with +/-<i>Melaleuca sheathiana</i> tall sparse shrubland, over <i>Senna artemisioides</i> subsp. <i>filifolia</i>, <i>Eremophila scoparia</i>, <i>Acacia leptopetala</i> mid sparse shrubland, over <i>Olearia muelleri</i>, <i>Westringia rigida</i> low sparse shrubland with <i>Triodia scariosa</i> low sparse hummock grassland. (402 ha) ○ VT21: <i>Eucalyptus celastroides</i>, <i>Eucalyptus transcontinentalis</i>, <i>Eucalyptus salubris</i> mid woodland, over <i>Eremophila scoparia</i>, <i>Senna artemisioides</i> subsp. <i>filifolia</i>, <i>Eremophila ionantha</i> mid sparse shrubland, over <i>Olearia muelleri</i>, <i>Acacia leptopetala</i>, <i>Eremophila clavata</i> low sparse shrubland. (21 ha) ○ VT22: +/-<i>Eucalyptus longissima</i>, <i>Eucalyptus melanoxydon</i> mid open mallee woodland with <i>Acacia coolgardiensis</i> tall shrubland, over +/-<i>Homalocalyx</i>

Characteristic	Details
	<i>thryptomenoides</i>, <i>Phebalium canaliculatum</i> mid sparse shrubland, over <i>Prostanthera grylloana</i> low sparse shrubland. (133 ha) - VT24: <i>Acacia burkittii</i>, <i>Melaleuca hamata</i>, +/-<i>Brachychiton gregorii</i> tall shrubland, over <i>Eremophila granitica</i>, <i>Mirbelia depressa</i>, <i>Prostanthera grylloana</i> low sparse shrubland. (1333 ha) The full survey maps are available in 0. This is consistent with the mapped vegetation type(s) (Shepherd et al, 2001): - Beard 9, which is described as medium woodland; coral gum (<i>Eucalyptus torquata</i>) & goldfields blackbutt (<i>E. le soufii</i>); - Beard 128, which is described as bare areas; rock outcrops; - Beard 468, which is described as medium woodland; salmon gum & goldfields blackbutt; - Beard 936, which is described as medium woodland; salmon gum; and - Beard 1413, which is described as Shrublands; acacia, casuarina & melaleuca thicket The mapped vegetation types retain approximately 97.78, 87.56, 98.63, 96.84, and 76.60 per cent of their original extent respectively (Government of Western Australia, 2019).
Vegetation condition	The vegetation surveys (Spectrum Ecology, 2024 and Botanica, 2025) indicate the vegetation within the proposed clearing area is in degraded to excellent (Keighery, 1994) condition, with the vast majority being in very good to excellent condition. The full Keighery (1994) condition rating scale is provided in Appendix C. The full survey descriptions and mapping are available in 0.
Climate and landform	A semi-arid climate characterises the region, with average annual rainfall falling to roughly 248 mm. Mean annual maximum temperatures reach roughly 25°C, while minimum temps lay around 11.2°C. Annual average pan evaporation: 2800mm (BoM, 2025)
Soil description	Several soil types are mapped over the application area, namely: - Binneringie system (265Bi) - Hills and plains supporting dense tall acacia shrublands with scattered eucalypt trees - Coolgardie Land System (265Co) - Uplands and undulating plains associated with ultramafic greenstones, supporting eucalypt woodlands and halophytic shrublands - Doney system (265Do) - Calcareous alluvial plains with eucalypt woodlands adjacent to salt lake systems - Graves system (265Gr) - Basalt and greenstone rises and low hills supporting eucalypt woodlands with prominent saltbush and bluebush understoreys - Gumland system (265Gm) - Extensive pediplains supporting eucalypt woodlands with halophytic and non-halophytic shrub understoreys - Johnston Land System (265Jn) - Gently undulating plains with occasional granite rises, supporting eucalypt woodlands and non-halophytic shrublands - Kanowna system (265Kw) - Level to gently inclined pediplains, gently undulating stony plains and prominent drainage foci supporting eucalypt woodlands with saltbush low shrubs - Kurrawang Land System (265Ku) - Low hills and ridges, with occasional plateaus and scarps, and undulating stony plains, on metasedimentary and felsic volcanoclastic rocks, supporting scattered eucalypt or casuarina woodlands - Monger Land System (265Mn) - Low rises, breakaways and very gently undulating plains with ironstone gravel mantles, supporting eucalypt woodlands, dissected by saline alluvial tracts, supporting halophytic shrublands - Moorebar Land System (265Mb) - Saline alluvial plains with narrow creeklines and sandy banks, supporting halophytic shrublands - Moriarty system (265Mo) - Low greenstone rises and stony plains supporting chenopod shrublands with patchy eucalypt overstoreys

Characteristic	Details
	- Sedgman system (265Sd) - Gritty surfaced plains with granite outcrop and low granite domes and hills supporting acacia tall shrublands - Woolibar Land System (265Wo) - Gently undulating calcareous gravelly plains, supporting bluebush shrublands and eucalypt woodlands - Kanowna Disturbed land phase (265KwX_Disturbed), Monger Disturbed land phase (265MnX_Disturbed), Moorebar Disturbed land phase (265MbX_Disturbed) - Disturbed land
Land degradation risk	Land degradation risk mapping is not available for soil mapping from DPIRD (2025) in the area of the clearing footprint. However, in the land systems mapped by Waddell and Galloway (2023), water erosion is described as being a risk in footslopes and valley floors, alluvial fans and plains, drainage tracts and sheetwash plains, particularly where a stony mantle is not present or is disturbed or is perennial plant cover is reduced. See Appendix A.4. for a more detailed description of land degradation risks.
Waterbodies	Multiple non perennial minor watercourses intercept the application area. The clearing footprint is within the Western Plateau, Lake Lefroy catchment area.
Hydrogeography	Groundwater salinity within the clearing footprint is mapped as saline (14,000 – 35,000 Mg/L TDS). The clearing footprint is within the Goldfields Groundwater Area proclaimed under the RIWI Act.
Flora	According to available databases, 37 species of conservation significant flora have been recorded within the local area (20-kilometre radius), composed of 36 Priority species and one (1) threatened species. None of the species were recorded within the proposed clearing area, the nearest being <i>Thryptomene planiflora</i> (P1) located over two kilometres from the application. One of the flora and vegetation surveys identified three species of priority flora within the proposed clearing areas (Spectrum Ecology, 2024), namely: <i>Calandrinia lefroyensis</i> (P1) <i>Lepidium genistoides</i> (P3) <i>Lepidosperma</i> sp. Kambalda (A.A. Mitchell 5156) (P2)
Ecological communities	There are no threatened or priority ecological communities within the local area (20-kilometre radius). The nearest community is the 'Mount Belches <i>Acacia quadrimarginea</i> / <i>Ptilotus obovatus</i> (banded ironstone formation)' Priority 3 ecological community which is located approximately 60 km east of the application.
Fauna	According to available databases, 10 species of conservation significant fauna have been recorded within the local area (20-kilometre radius), composed of five birds, three invertebrates and two mammals. One species, the malleefowl (<i>Leipoa ocellata</i>) (VU) has previously been recorded within the application area. One of the fauna surveys identified 23 malleefowl mounds within the proposed clearing areas (SLR, 2024).

A.2. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), and biological survey information, impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Calandrinia lefroyensis</i>	1	Y	Y	Y	0	110	Y
<i>Lepidium genistoides</i>	3	Y	Y	Y	0	7	Y
<i>Lepidosperma</i> sp. Kambalda (A.A. Mitchell 5156)	2	Y	Y	Y	0	5	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

A.3. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Arid bronze azure butterfly (<i>Ogyris subterrestris petrina</i>)	CR	Y	Y	Y	15.37	Y
Central long-eared bat (<i>Nyctophilus major tor</i>)	P3	Y	Y	Y	14.49	Y
Desert hairstreak butterfly (<i>Jalmenus aridus</i>)	P1	Y	Y	Y	13.34	Y
Malleefowl (<i>Leipoa ocellata</i>)	VU	Y	Y	Y	0.00	Y
Shield-backed trapdoor spider (<i>Idiosoma</i> sp.)	EN or P	Y	Y	Y	1.72	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

A.4. Land degradation risks

Waddell and Galloway (2023) describe the following land degradation risks for the mapped land systems:

- Binneringie system: Stony mantles and dense vegetation mean this land system is generally not prone to erosion.
- Coolgardie Land System: Where not protected by a stony mantle, footslopes and valley floors are susceptible to water erosion, particularly where perennial shrub cover is substantially reduced and/or the soil surface is disturbed. The vegetation of Coolgardie is preferred for grazing by herbivores, rendering it prone to overgrazing and consequent degradation. Overgrazing can be avoided by good land management, including control of total grazing pressure.
- Doney Land System: This land system is generally not susceptible to erosion, although drainage tracts are susceptible, particularly if perennial plant cover is substantially reduced.
- Graves Land System: Stony mantles and moderately dense vegetation mean this land system is generally not prone to erosion, unless the protective mantle is disturbed, which most often occurs with construction of exploration tracks and drill pads. Alluvial plains in valley floors are susceptible to water erosion where perennial shrub cover is substantially reduced, or the soil surface is disturbed. While these upland areas are generally not preferred for grazing by introduced herbivores, uncontrolled goat populations may affect the diversity and density of some palatable plants. However, the vegetation of the valley floors is highly preferred for grazing, rendering it prone to overgrazing and consequent degradation. Overgrazing can be avoided by good land management, including control of total grazing pressure.
- Gumland Land System: Alluvial plains, drainage tracts and foci (units 3, 4 and 5) are susceptible to erosion if perennial shrub cover is substantially reduced, as are footslopes (unit 1) if protective mantles are disturbed. Poorly located infrastructure, such as track and fencelines, across sheetwash and alluvial plains can result in concentrated water flows and cause erosion incision. Impedance to natural drainage can also initiate loss of vigour in vegetation downslope because of water starvation. The halophytic vegetation is highly preferred for grazing by herbivores, rendering it prone to overgrazing and consequent degradation. Overgrazing can be avoided by good land management, including control of total grazing pasture.
- Johnston Land System: Alluvial fans and drainage tracts are moderately susceptible to erosion and loamy sheetwash plains are mildly susceptible. Obstruction of natural water flows can cause water starvation and consequent loss of vigour in vegetation downslope. Soil surface disturbance on these landforms may initiate erosion.
- Kanowna system: Except for the loamy plain landform, this land system is susceptible to water erosion. This is most apparent where weathered felsic volcanoclastic rocks underlie saline soils, particularly in areas where perennial shrub cover is substantially reduced or the soil surface is disturbed. Stony mantles may provide

limited protection against erosion. The vegetation is highly preferred for grazing by herbivores, rendering it prone to overgrazing and consequent degradation. Overgrazing can be avoided by good land management, including control of total grazing pressure.

- Kurrawang Land System: This land system is generally not susceptible to erosion, unless the protective stone mantle is disturbed, which most often occurs with construction of exploration tracks and drill pads. Valley floors are susceptible to water erosion where perennial shrub cover is substantially reduced, or the soil surface is disturbed. While these upland areas are generally not preferred for grazing by introduced herbivores, uncontrolled goat populations may affect the diversity and density of some palatable plants. Overgrazing can be avoided by good land management, including control of total grazing pressure.
- Monger Land System: This land system is generally not susceptible to erosion.
- Moorebar Land System: Alluvial plains are susceptible to erosion when shrub cover is reduced or run-on is concentrated from degraded areas upslope. Loss of stabilising perennial shrubs may exacerbate wind erosion of sandy banks. The vegetation is highly preferred for grazing by herbivores, rendering it prone to overgrazing and consequent degradation. Overgrazing can be avoided by good land management, including control of total grazing pressure.
- Moriarty system: Slopes of low rises without protective stone mantles, alluvial plains and narrow drainage tracts are moderately susceptible to water erosion, particularly if perennial shrub cover is substantially reduced or the soil surface is disturbed. Some vegetation communities are highly preferred for grazing by herbivores, rendering them prone to overgrazing and consequent degradation. Overgrazing can be avoided by good land management, including control of total grazing pressure.

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<u>Principle (a):</u> <i>"Native vegetation should not be cleared if it comprises a high level of biodiversity."</i> <u>Assessment:</u> The area proposed to be cleared contains malleefowl and contains suitable habitat for conservation significant flora and fauna.	At variance (as per CPS 8235/1)	Yes <i>Refer to Section 3.2.1, above.</i>
<u>Principle (b):</u> <i>"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."</i> <u>Assessment:</u> The area proposed to be cleared contains habitat for conservation significant fauna. Malleefowl have previously been recorded within the proposed clearing area, including nesting mounds.	At variance (as per CPS 8235/1)	Yes <i>Refer to Section 3.2.2, above.</i>
<u>Principle (c):</u> <i>"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</i> <u>Assessment:</u> The area proposed to be cleared is unlikely to contain individuals of or habitat for flora species listed under the BC Act.	Not likely to be at variance (as per CPS 8235/1)	No
<u>Principle (d):</u> <i>"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."</i> <u>Assessment:</u>	Not likely to be at variance (as per CPS 8235/1)	No

Assessment against the clearing principles	Variance level	Is further consideration required?
The area proposed to be cleared does not contain species that can indicate a threatened ecological community.		
Environmental value: significant remnant vegetation and conservation areas		
<u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i> <u>Assessment:</u> The extent of the mapped vegetation types and native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.	Not at variance (as per CPS 8235/1)	No
<u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i> <u>Assessment:</u> Given the distance to the nearest conservation area, the proposed clearing may have an impact on the environmental values of adjacent conservation areas.	May be at variance (as per CPS 8235/1)	Yes <i>Refer to Section 3.2.3, above.</i>
Environmental value: land and water resources		
<u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i> <u>Assessment:</u> Several non-perennial water courses are recorded within the application area. However conditions on the permit will minimise impacts to these watercourses.	At variance (was determined to may be at variance in CPS 8235/1)	Yes <i>Refer to Section 3.2.4, above.</i>
<u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i> <u>Assessment:</u> The mapped soils are moderately susceptible to erosion, particularly around drainage lines. Noting the extent of the application area, the proposed clearing may have an appreciable impact on land degradation. Impacts from salinity are considered unlikely due to the depth to groundwater and the high evaporation to rainfall ratio.	May be at variance (was determined not likely to be at variance in CPS 8235/1)	<i>Refer to Section 3.2.4, above.</i>
<u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i> <u>Assessment:</u> The clearing may result in erosion, particularly around drainage areas, which may lead to impacts to water quality within watercourses. Noting the depth to groundwater, the clearing is considered unlikely to impact groundwater.	May be at variance (was determined not likely to be at variance in CPS 8235/1)	<i>Refer to Section 3.2.4, above.</i>
<u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i> <u>Assessment:</u> The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.	Not likely to be at variance (as per CPS 8235/1)	No

Appendix C. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix D. Biological survey information excerpts

The biological surveys undertaken within the application area are considered consistent with the EPA (2016) Technical guidance – Flora and Vegetation Surveys for Environmental Impact Assessment and EPA (2020) Technical guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment and are summarised below.

Mt Marion Hamptons Tenements Terrestrial Fauna Survey Basic Fauna and Targeted Malleefowl, Chuditch, and ABAB Surveys (SLR, 2024)

Mineral Resources Limited (MRL) commissioned a terrestrial fauna survey to identify fauna habitat values and undertake targeted searches for malleefowl, chuditch, and ABAB within the Mt Marion Hamptons Tenements (SLR, 2024). The survey involved a desktop assessment and field sampling:

- The desktop assessment involved a literature review, database searches, and a likelihood of occurrence assessment.
- The field survey was undertaken by six experienced zoologists and ecologists across two field trips (26 July to 3 August 2023 and 9 to 14 August 2023) and involved:
 - Habitat assessment in representative areas of fauna habitat to identify landform, soil and rock types, key habitat and microhabitat features, habitat quality and disturbance, and vegetation structure,
 - Camera trapping across 57 motion sensitive cameras baited with universal bait and deployed in lines of five camera spaces 50 metres apart in areas of suitable habitat for chuditch hunting and denning or in areas of suspected high fauna activity (i.e., water holes, caves, etc.),
 - Opportunistic observations of fauna, including primary evidence (direct sightings, calls, and remains) and secondary evidence (tracks, scats, and diggings),
 - Malleefowl mound surveys using light detection and ranging (LiDAR) data from aerial surveys to identify mound-like features and ground-truthing of potential malleefowl mounds, and

- ABAB ant surveys in areas likely to contain smooth barked eucalypts based on aerial imagery and vegetation mapping across 213 kilometres of transects.

Mt Marion – Hamptons Tenements Detailed Flora & Vegetation Assessment (Spectrum Ecology, 2024)

MRL commissioned a detailed flora and vegetation survey to develop a flora species list, describe and map the vegetation types and condition, and undertake targeted searches for conservation significant species within the Mt Marion Hamptons Tenements (Spectrum Ecology, 2024). The survey involved a desktop assessment and field sampling:

- The desktop assessment involved searches of biological databases, literature reviews, and a likelihood of occurrence assessment.
- The field survey was undertaken by six experienced botanists across Phase 1 (26 September to 2 October 2023) and Phase 2 (3 to 15 April 2024) and involved sampling of vegetation condition and disturbances, landform, vegetation composition and species lists, significant flora, and weeds, within a total of:
 - 105 quadrats (47 in Phase 1 and 58 on Phase 2),
 - 24 relevés (16 in Phase 1 and eight in Phase 2), and
 - 328.5 kilometres of targeted traverses.

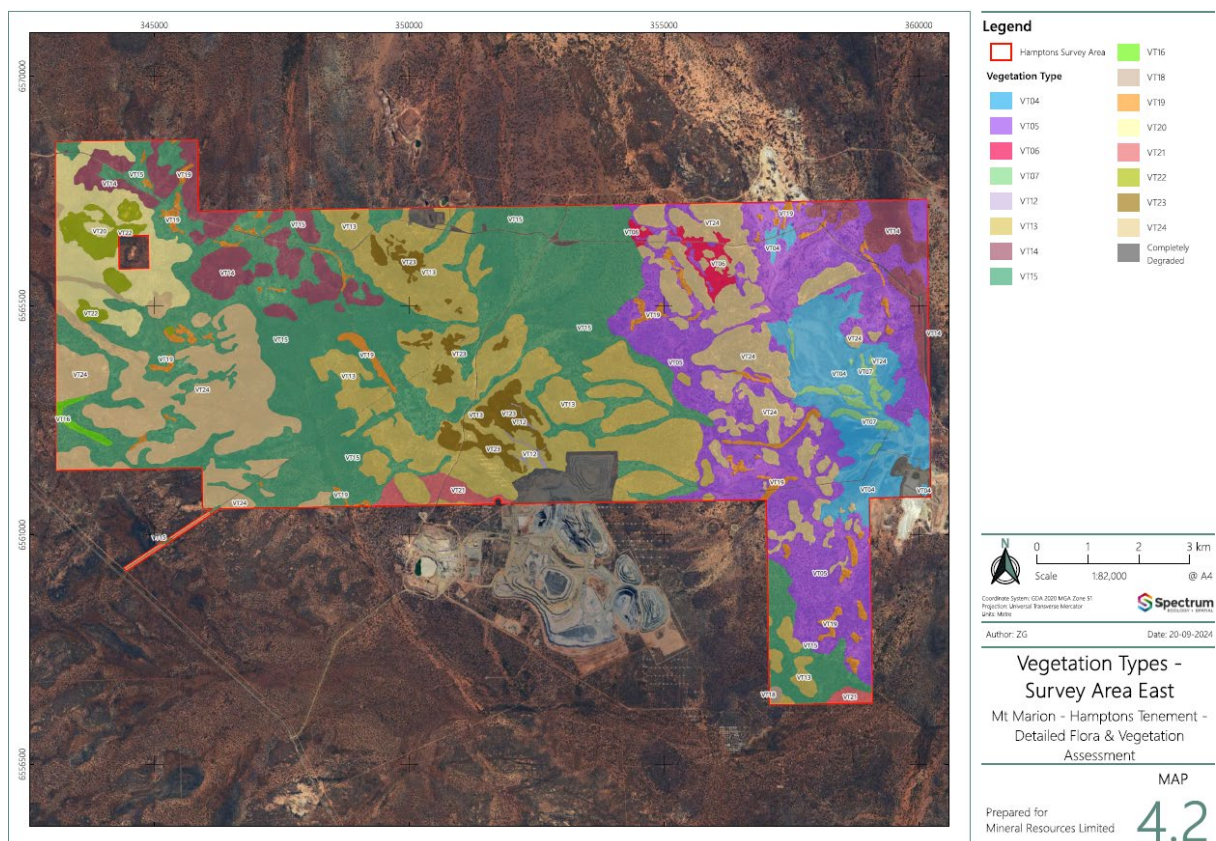


Figure D-1. Vegetation mapping within the proposed clearing areas and surrounding.

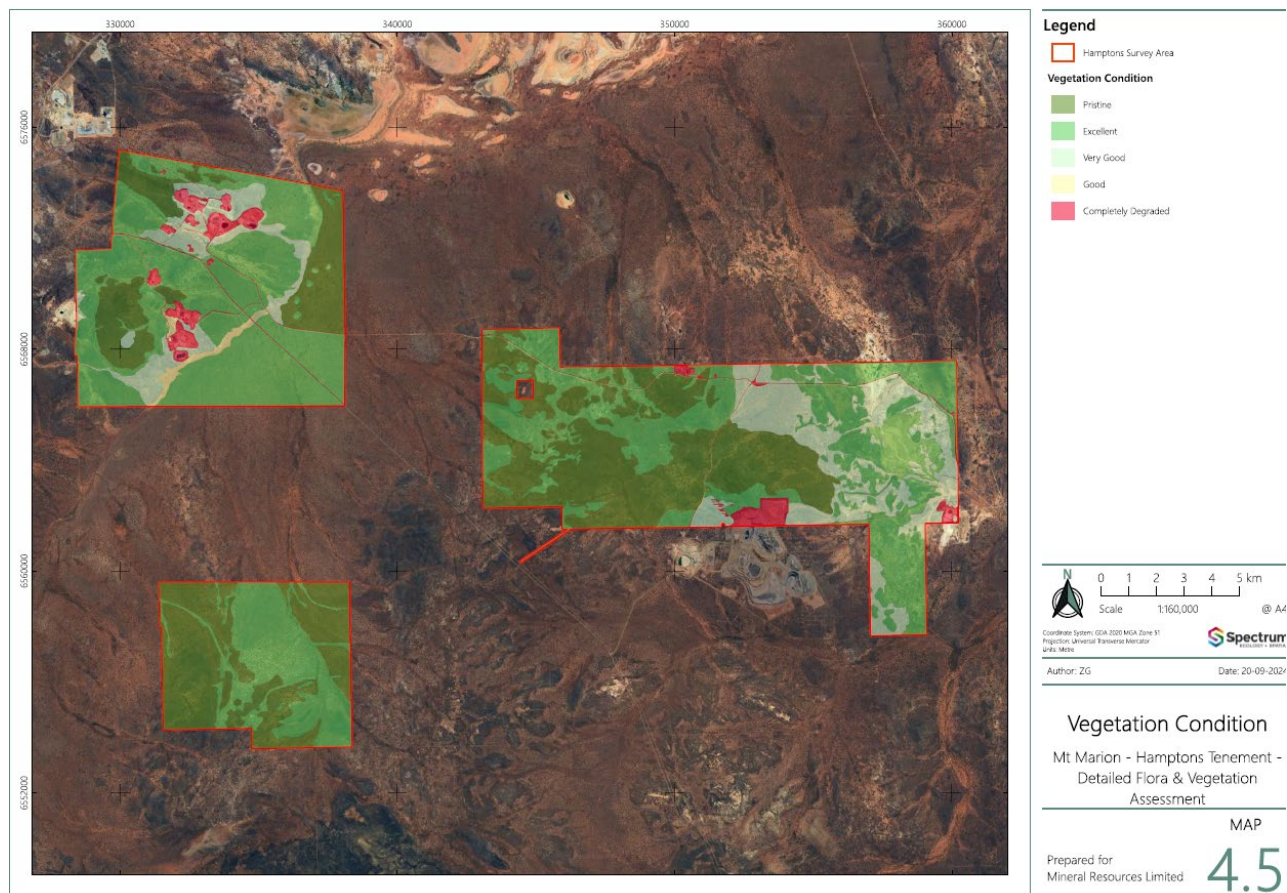


Figure D-2. Map of vegetation condition within the broader survey area.

Kanowa Project (CPS 8235) – Reconnaissance flora and basic fauna survey (Botanica, 2025)

Botanica Consulting Pty Ltd (Botanica) was commissioned by Northern Star Resources Ltd (NSR) to undertake a reconnaissance flora and basic terrestrial vertebrate fauna survey at the Kanowna Project (CPS 8235) (Botanica, 2025). This survey accounts for the western most portion of the application area which was not included within the Spectrum Ecology (2024) and SLR (2024) surveys. The survey included the following:

- desktop assessments were undertaken for flora and fauna to identify any potential significant flora, vegetation, fauna and communities that may occur within the survey area,
- a reconnaissance flora and vegetation survey and basic fauna survey was conducted on the 15th of October 2024 involving 75 relevés. At each relevé site, the area was walked on foot to observe and record all flora species.
- Fauna habitat types were identified across the survey area based on broad vegetation groups and associated landform with non-systematic opportunistic observations of fauna species recorded. Secondary evidence of fauna such as tracks, diggings and scats were also noted.

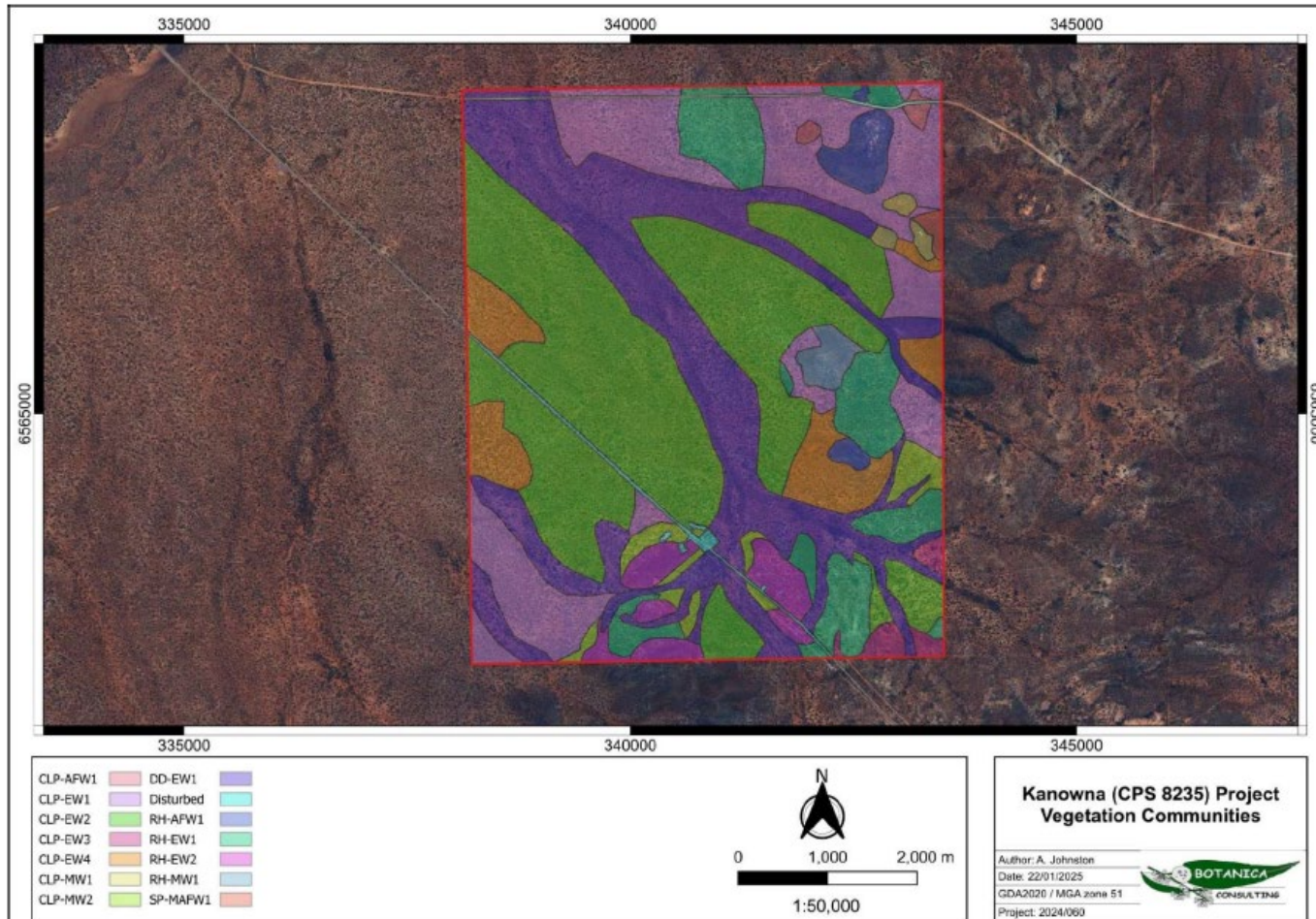


Figure D-3. Vegetation mapping within the western section of the proposed clearing area

Appendix E. Sources of information

E.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)

- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

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